URBAN SOS - BLACK CREEK

ROCKCLIFFE-SMYTHE, TORONTO, ONTARIO, CANADA

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On August 19, 2005, Black Creek was the site of heavy flooding as a result of extremely heavy rains that afternoon. Its overflow destroyed a culvert on Finch Avenue and flooded the streets and homes of surrounding neighbourhoods. In 2000, the Humber Watershed Alliance graded Black Creek the most polluted Humber River tributary in the document, "A Report Card on the Health of the Humber River Watershed". In 2007, the new Humber River Report Card, "Listen to Your River" identifies the Black Creek with the lowest level of forested area and the highest levels of E. Coli bacteria[1].

Existing condition of Black Creek at Humber Boulevard

Flowing from the city of Vaughan, Ontario through the Greater Toronto Area and into Lake Ontario, The Black Creek watershed was once rich in forests, fertile soils and clean water. Over the years however, this landscape has been logged, converted to farmland, and eventually transformed into the heavily urbanized landscape of today. This urban development has reduced the size and quality of the creek, while land clearance, altered drainage patterns, and pollution have degraded the ecological health of the entire watershed. Forest cover on the creek currently stands at about 4.6%[2], 30% of the creek has been channelized[3], and public green spaces are few and heavily used. During the development of the area, Black Creek was redirected along Humber Boulevard from Weston Road to Alliance Avenue[4], where it runs along a man-made concrete waterway through the residential neighbourhood of Rockcliffe-Smythe, the study area of this project, and into the Humber River. Recently, large residential developments near the creek's headwaters have resulted in large sections of the creek to be buried and the loss of hectares of natural habitat[5]. Approximately 300 storm drains, some of which are combined sewers, outfall into Black Creek, washing large amounts of contaminants directly into it, making it a major source of pollution to the Humber River recreational areas and emptying into Lake Ontario, and in turn the Toronto Waterfront. Regular instances of dumping household and commercial contractor waste plague several locations along the creek, also impairing water quality.

[1] BCCP, "Current Projects and Programs of the BCCP," The Black Creek Conservation Project of Toronto, http://www.bccp.ca/CurrentProjects.html (accessed 10 June 2009)
[2] http://www.bccp.ca/CurrentProjects.html (accessed 10 June 2009)
[3] http://www.bccp.ca/CurrentProjects.html (accessed 10 June 2009)
[4] Wikipedia, "Black Creek (Ontario)," http://en.wikipedia.org/wiki/Black_Creek_(Ontario) (accessed 10 June 2009)
[5] http://www.bccp.ca/CurrentProjects.html (accessed 10 June 2009)

Black Creek bisects Ward 11, an industrial area that is also home to over 60,000 people, primarily working class[6]. One quarter of residents live below the poverty line and the largest segment of the population are between the ages of 25 and 54. Ward 11 is made up of the Weston-Mount Dennis neighbourhood, as well as parts of the Rockcliffe-Smythe neighbourhood, Brookhaven-Amesbury and Pelmo Park-Humberlea. These neighbourhoods are some of the lowest in Toronto in terms of average income and average house price according to the Statistics Canada 2001 Census[7], with more than one in four people living on an income of $20,000 or less[8]. The neighbourhoods of Ward 11 have been identified by Toronto City Council as some of the city's priority neighbourhoods most in need of improved community and residential infrastructure. Profiled by increasing incidents of violent crimes, theft and poverty damage, these communities are segregated by concrete and chain link fence, providing lanes for speeding motor traffic rather than sidewalks and cross over points for pedestrians, such as school children attending Santa Maria Elementary School on the South bank of Humber Boulevard.

Since 1982, the Black Creek Conservation Project of Toronto has been focusing on re-naturalising the creek's ecosystem. It is responsible for the planting of thousands of native plants within the watershed, clean-up events, a business and community outreach, the installation of erosion control riprap, and still continues to run a comprehensive water quality assessment of the creek regularly. Its future plans include the replacement of some of the channeled portions of the creek with natural stream beds and banks, allowing the wildlife from the Humber River to access the creek. Yet, the portion of the creek always left unaddressed is that which runs along Humber Boulevard.

View of the restored Cheonggyecheon (image source: Wikipedia)

A major precedent for this project is Cheonggyecheon in downtown Seoul, Korea. Cheonggyecheon is a 6 km long creek which in 1968 was converted into a sewer buried below a sixteen meter wide elevated concrete highway, joining the Jungangcheon, which joins the Hangang and flows into the Yellow Sea. With the removal of the highway, the creek has been restored and converted into a linear public park, but since it runs through a highly urbanized centre, could not be re-naturalised as a natural stream[9]. Biotopes and "ecology areas" have been created in sections of it, with extensive planting, as well as a wildlife marsh at its mouth. These are linked by pedestrian paths on both sides of the creek's banks linked by stairs at every bridge. The open streambed has a capacity to hold much higher volumes of water during heavy rainfalls than the

[6] CBC "Ward 11 York South Weston," Wards http://www.cbc.ca/toronto/features/torontovotes2006/wards/11.html (accessed 10 June 2009)
[7] Wikipedia "Rockliffe-Smythe," http://en.wikipedia.org/wiki/Rockcliffe-Smythe (accessed 10 June 2009)
[8] Salloum, Claire "Blueprint to End Homelessness: Ward 11," Spacing Votes, http://spacing.ca/votes/?p=252 (accessed 19 August 2009)
[9] Park Kil-Dong, "Cheonggeycheon Restoration Project," http://www.wfeo.org/documents/download/Cheonggeycheon%20Restoration%20Project_%20Korea.pdf (accessed 19 August 2009)

previous, protecting the neighbouring buildings from flooding. Despite much initial criticism, the park is highly used today, and the city's traffic congestion has actually improved[10].

View of the restored Black Creek

This project aims to revitalize the area surrounding the Humber Boulevard culvert as a model for regenerating ecosystems and creating more accessible and safe public spaces along neglected urban stretches of Black Creek. Traffic along Humber Boulevard South is primarily for access to Santa Maria Elementary School and a high-rise apartment building. With traffic focused on the North side of the road, Humber Boulevard South is removed and converted to public parkland re-connecting Black Creek and its segregated community through a series of trails connecting Keelesdale Park and Smythe Park and extending to the Humber River Trail. New pedestrian bridges will create multiple points of crossing to connect the two shores for pedestrians. A new sidewalk along the creek side of Humber Boulevard North will provide a safe area for pedestrians crossing the street and walking along the creek. Naturalizing Black Creek with new plantings and landscaping will help clean the water and support new ecosystems, transforming the centerpiece of the Boulevard from an open sewer and storm management channel to a public park. The re-grading of the creek's existing vertical slopes and the introduction of vegetation allows for greater flow capacity during storms, protecting the surrounding area from flooding. Schools and public facilities along the South bank of Black Creek will serve community functions all year around, creating a new focus for the community. A new market will fill the school parking lot on weekends to provide better food and products closer to home for the local residents and the school will serve as an information point for the residents, as well as, the headquarters and meeting place for the existing Black Creek Conservations Project and the proposed Humber Boulevard Project volunteers and students.

[10] Livable Streets Initiative, "Highway Removal," http://www.livablestreets.com/streetswiki/highway-removal (accessed 19 August 2009)

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